

**FIBRE OPTIC SENSOR, RAILWAY'S
VIBRATION, STRAIN AND
DISPLACEMENT MEASUREMENT
SYSTEM, BASED ON DISTRIBUTED
ACOUSTIC SENSING TECHNOLOGY**

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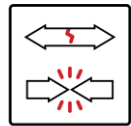
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DFOS – Distributed Fiber Optic Sensing
DAS – Distributed Acoustic Sensing
FBE – Frequency Band Energy



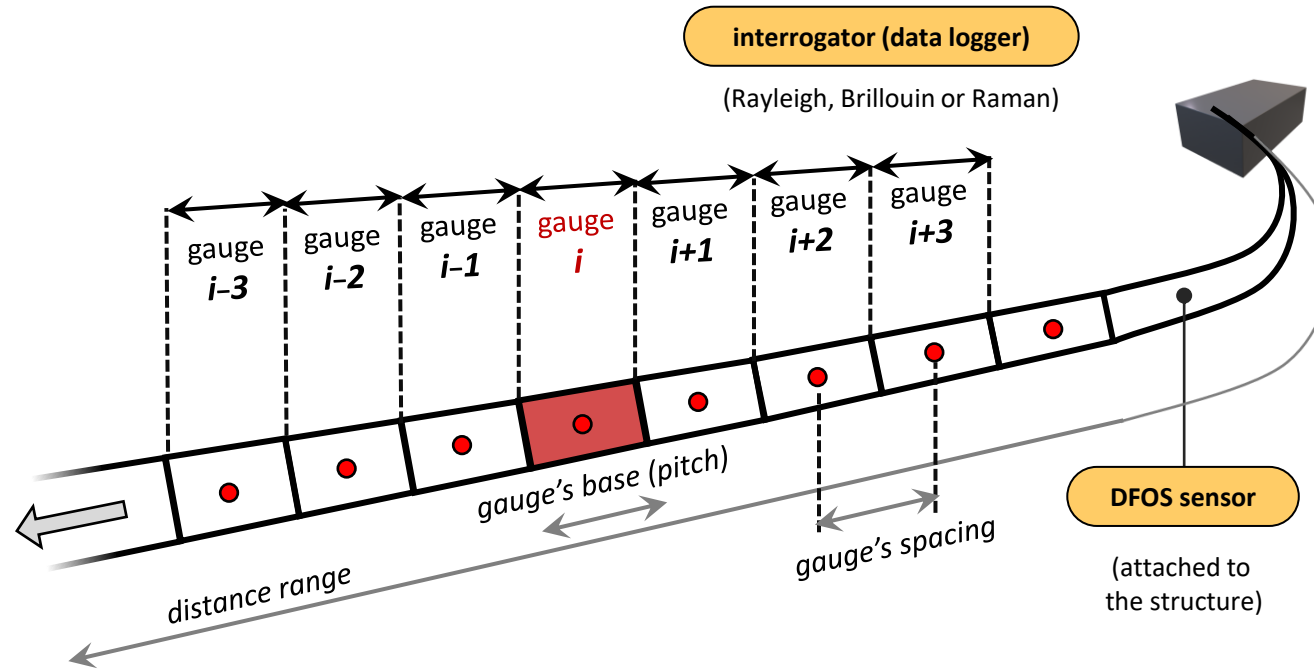
DAS
acoustic



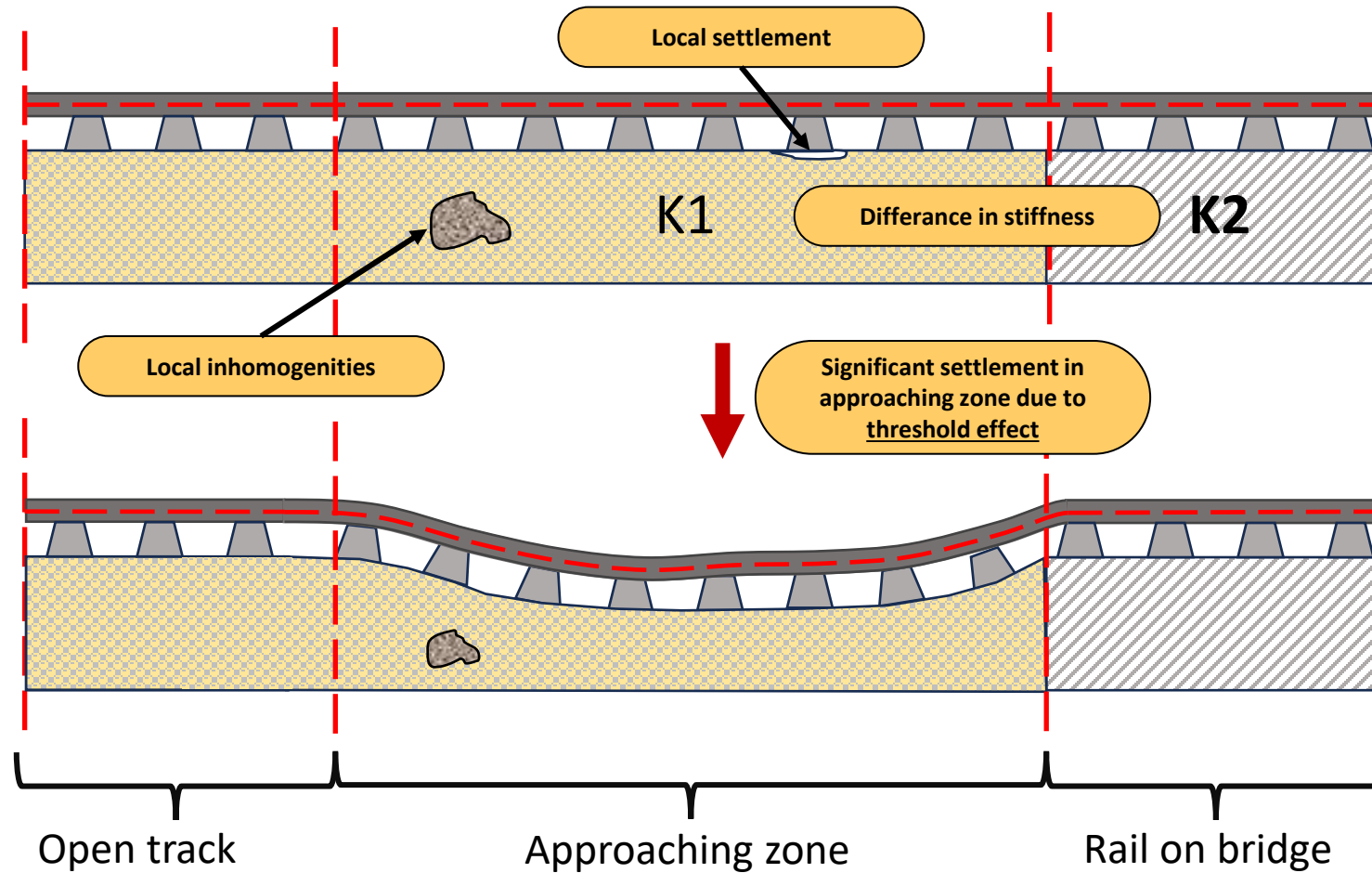
DSS
strain, crack



DTS
temperature



Why is it necessary to monitor the railway state?

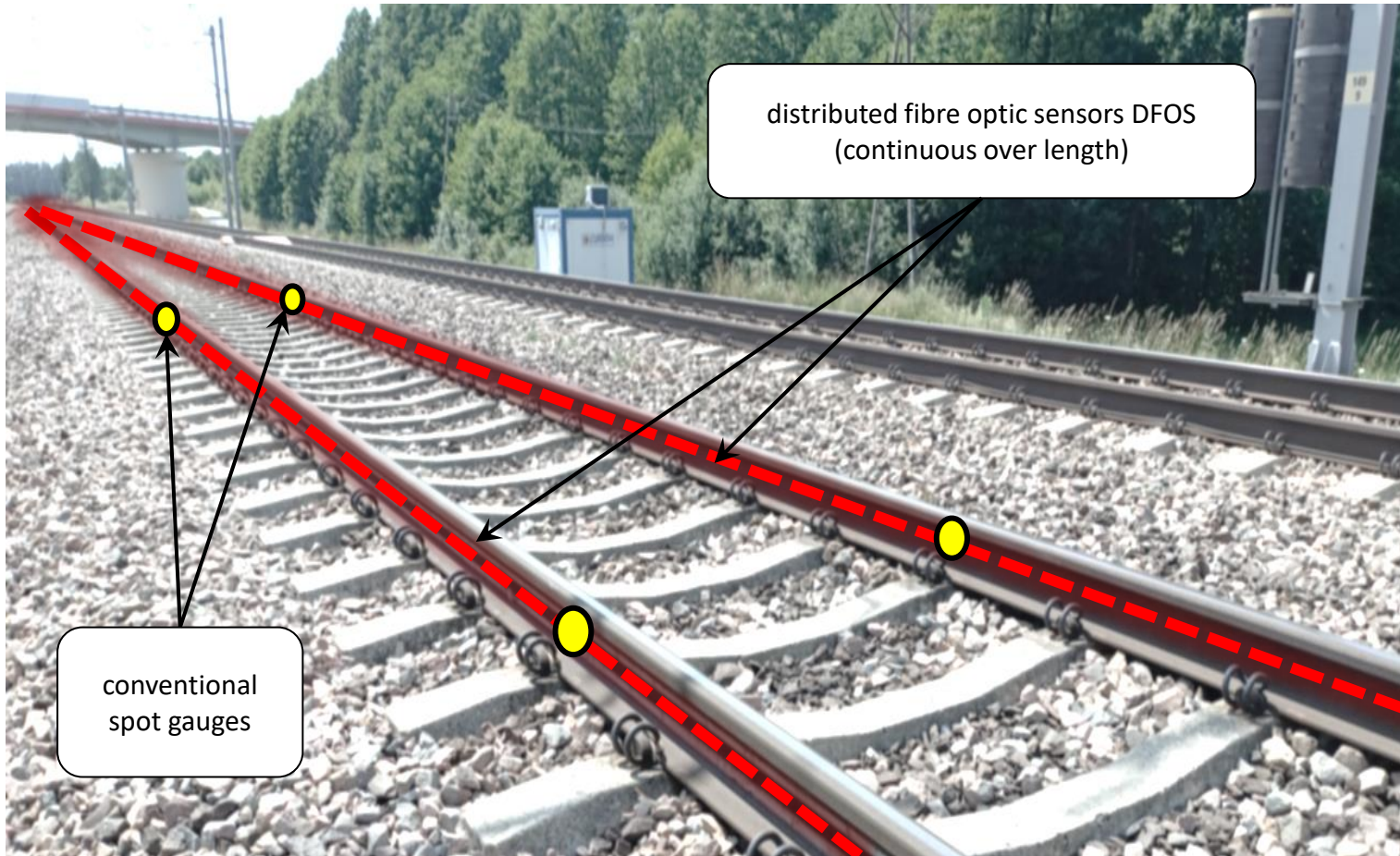


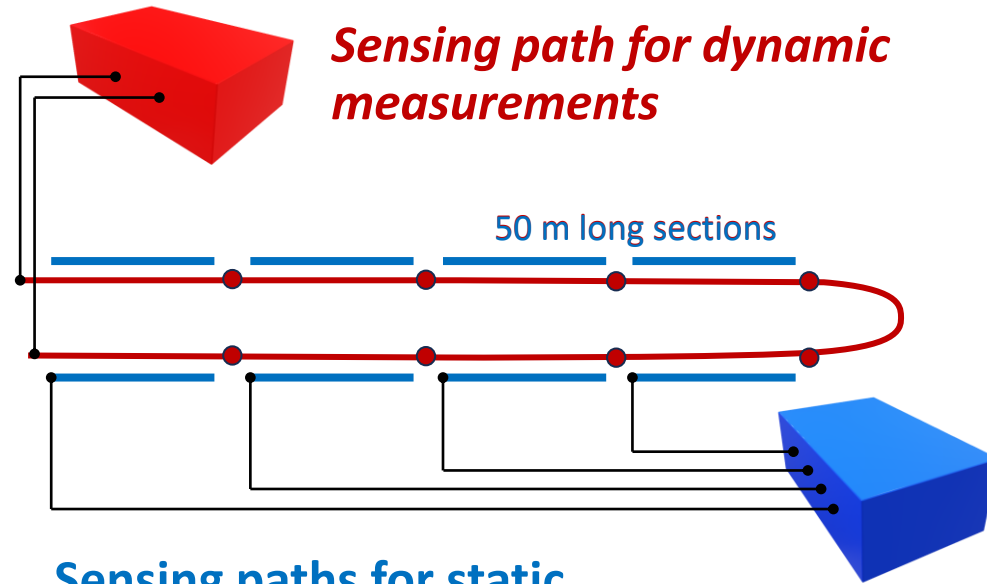
The biggest railway inspection project in Poland



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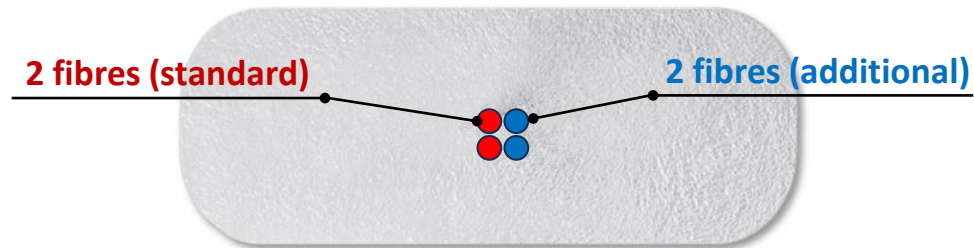




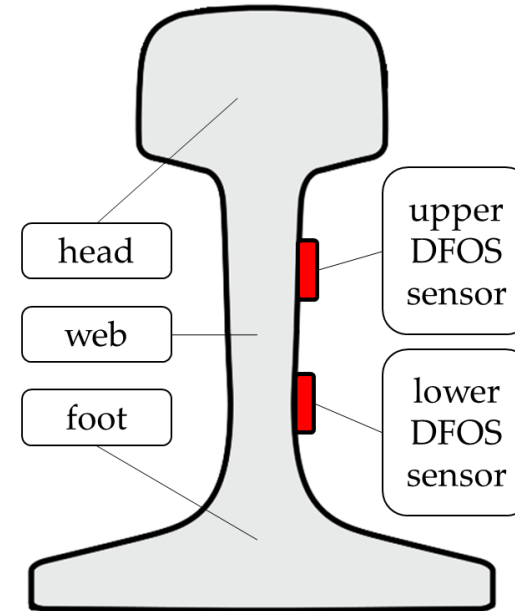
Sensing path for dynamic measurements

Sensing paths for static measurements

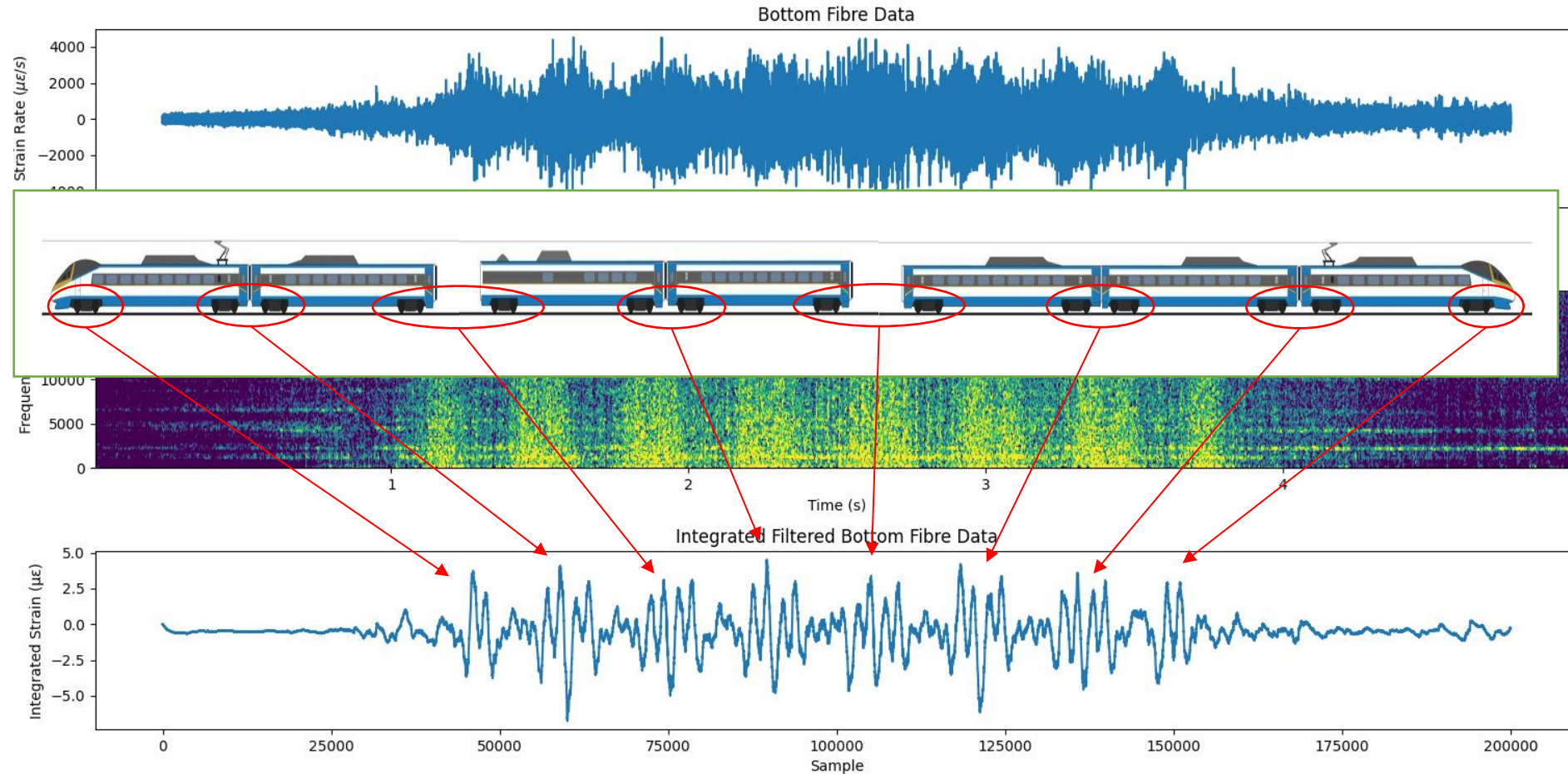
EpsilonFlat

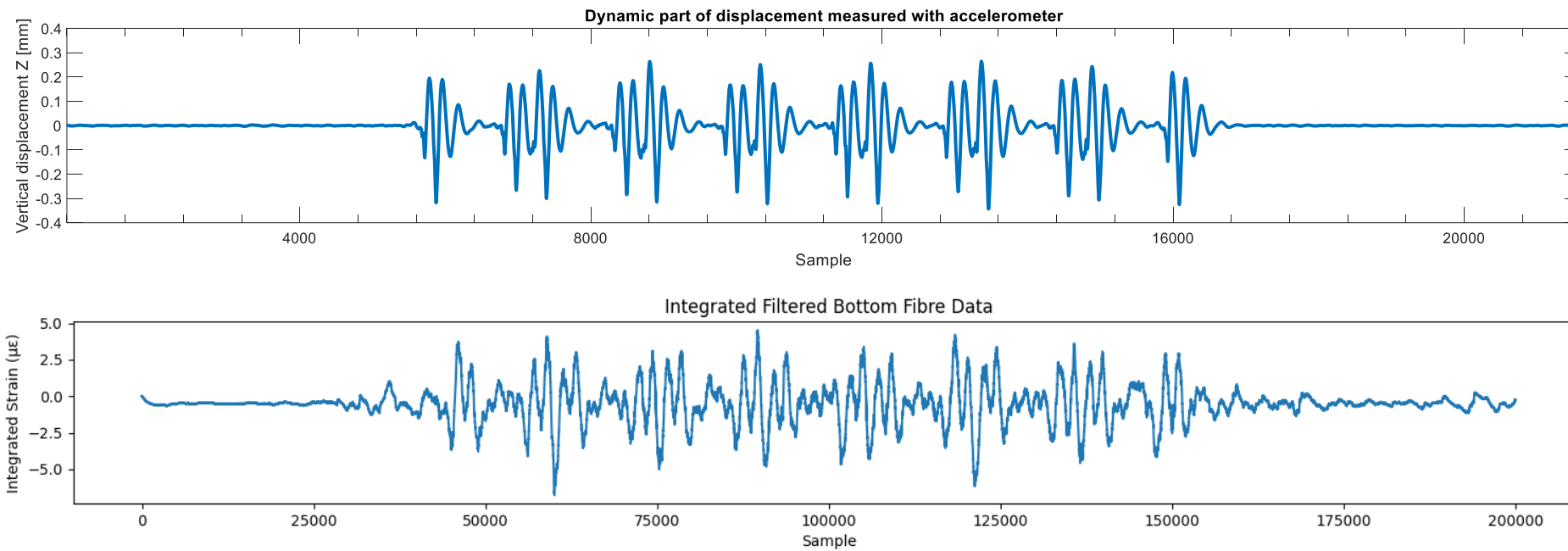


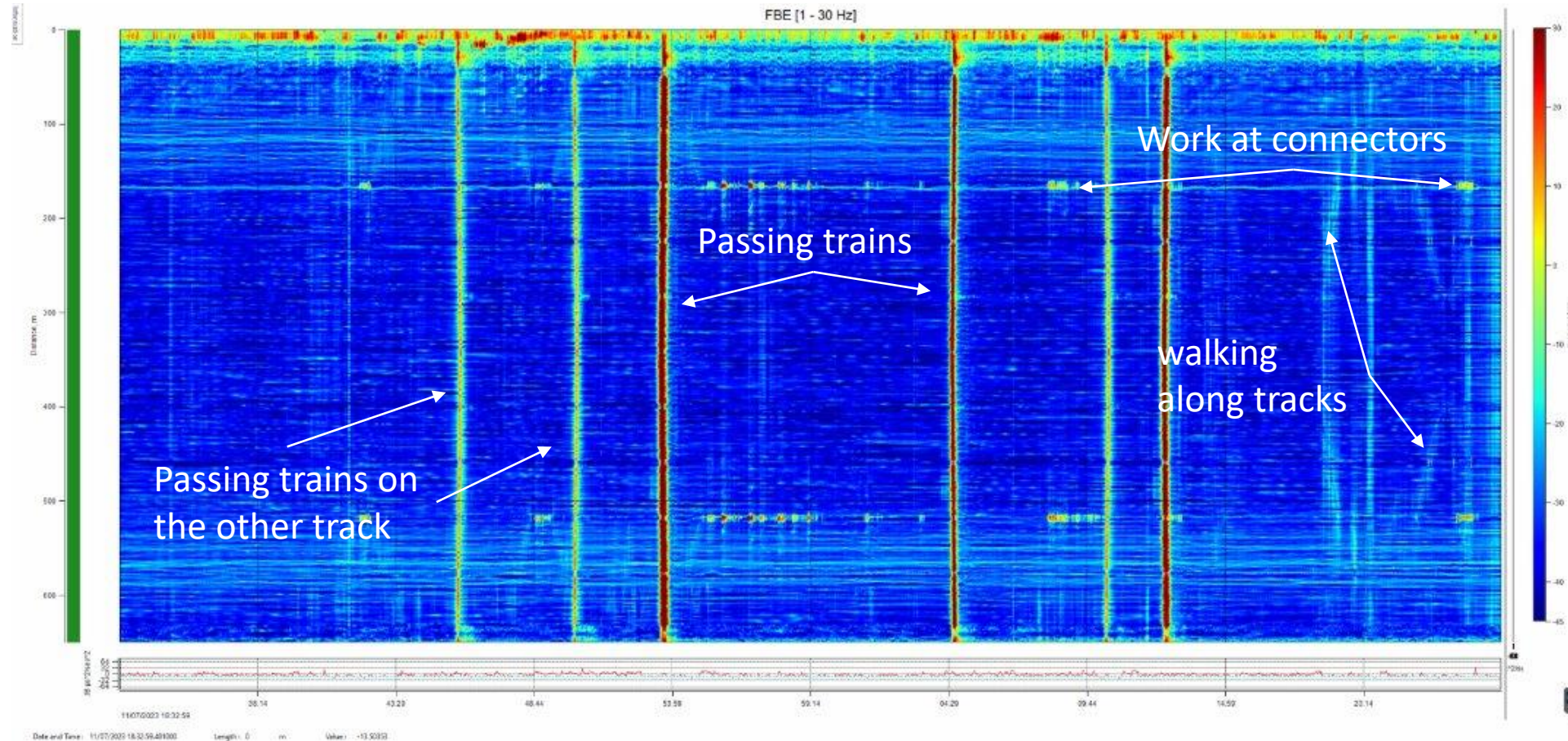
- strains, stress, temperatures, vibration, and shape
- more than **2,200 m** of sensing path
- over **300 m** of dynamic sensing path
- six independent optical devices + spot sensors
- 13 static and **3 dynamic surveys** around the year



Example results









Thank you!

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